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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,097	07/03/2003	Scott Adam Stephens	9792-0038-999	7392

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EXAMINER

ALSOMIRI, ISAM A

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/614,097

Applicant(s)

STEPHENS, SCOTT ADAM

Examiner

Isam Alsomiri

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 010705.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

Applicant is advised that the Notice of Allowance mailed is vacated. If the issue fee has already been paid, applicant may request a refund or request that the fee be credited to a deposit account. However, applicant may wait until the application is either found allowable or held abandoned. If allowed, upon receipt of a new Notice of Allowance, applicant may request that the previously submitted issue fee be applied. If abandoned, applicant may request refund or credit to a specified Deposit Account.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Lanziner EP 0 325 539 A1.**

Referring to claim 15, Lanziner discloses in figures 1-2 and 6-8 a positioning system, comprising a passive, isotropic reflecting landmark at a fixed position 8 or 6; and a device configured to transmit an electromagnetic pulse, the pulse having a polarization (see Abstract); the device further configured to receive a return signal over a period of time, the return signal including a reflected pulse from the landmark, and to process the return signal so as to isolate the reflected pulse from the return signal and to determine a range from the device to the landmark (see col. 4 lines 18-35); the

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reflecting landmark comprising: a first passive reflector 6 for reflecting electromagnetic pulses [figure 6]; a second passive reflector 4 for reflecting electromagnetic pulses ; and a static structure 24 or 14 configured to statically position the second passive reflector at an angle relative to the first passive reflector, wherein the angle is about 90°.

Referring to claims 16-17, Lanziner teaches the polarization is a circular polarization (see col. 3 lines 22+); the polarization is selected from the group consisting of right-hand circular polarization (RHCP) and left-hand circular polarization (LHCP).

Referring to claim 18, Lanziner teaches the device includes at least one antenna configured to preferentially receive signals having the polarization (see col. 4 lines 5-9).

Referring to claim 19, Lanziner teaches wherein the device includes at least one antenna configured to both preferentially transmit the pulse having the polarization and to preferentially receive signals having the polarization (see col. 3 lines 48-50).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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**Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lanziner EP 0 325 539 A1 in view of Link et al. US 5,572,427.**

Referring to claim 20, Lanziner teaches the device including a vehicle locomotion mechanism (ship or vehicle) for moving the device in a particular direction, at a velocity; a data processor; at least one program module (inherent), executed by the data processor containing instructions to do the calculations. However, Lanziner is silent about detecting a Doppler shift in the reflected pulse portion of the return signal; and determining an angle between the particular direction and a straight line between the device and the landmark; Link teaches the claimed detecting a Doppler shift in the reflected pulse to determine the bearing of the signal source (in Lanziner case it would be the reflected signal) relative the moving receiver (in Lanziner, it would be the device). It would have been obvious to modify Lanziner device to further determine the Doppler shift as taught by Link to locate the landmark relative to the device with more accuracy.

**Claims 221-22 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanziner EP 0 325 539 A1 in view of Fukae et al. EP 0 961 134 A.**

Referring to claims 21-22 and 28, Lanziner teaches a vehicle locomotion mechanism for moving the device in a particular direction, at a velocity; a data processor; at least one program module, executed by the data processor, the at least one program module containing instructions for the device (inherent). Lanziner is silent about transmitting the pulse at a first position of the device and determining from the

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received return signal a first set of range candidates, each range candidate representing a possible range to the landmark; transmitting the pulse at a second position of the device and determining from the received return signal a second set of range candidates; processing the first and second sets of range candidates to produce a reduced set of range candidates that are consistent with one or more potential landmark positions. Fukae teaches a similar device which the claimed transmitting a first and second pulses at a first and second positions respectively with a predetermined distance between the first and second signal, and process the two signals to produce a reduced set of range candidates (see paragraphs 0041 – 0049, figures 5-7). It would have been obvious to modify Lanziner's system to include the steps of Fukae as mentioned above for more accurate tracking of the landmark to obtain precise location measurements.

**Claims 23-24 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanziner EP 0 325 539 A1 in view of Link et al. US 5,572,427 and Holt US 6,608,593.**

Referring to claims 23 and 26-27. (Original) Lanziner teaches a vehicle locomotion mechanism for moving the device in a particular direction, at a velocity; a data processor; at least one program module, executed by the data processor, the at least one program module containing instructions for the device (inherent). Lanziner is silent about transmitting the pulse at a first position of the device and determining from the received return signal a first set of range candidates, each range candidate

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representing a possible range to the landmark; transmitting the pulse at a second position of the device and determining from the received return signal a second set of range candidates; processing the first and second sets of range candidates to produce a reduced set of range candidates that are consistent with one or more potential landmark positions. Fukae teaches a similar device which the claimed transmitting a first and second pulses at a first and second positions respectively with a predetermined distance between the first and second signal, and process the two signals to produce a reduced set of range candidates (see paragraphs 0041 – 0049, figures 5-7). It would have been obvious to modify Lanziner's system to include the steps of Fukae as mentioned above for more accurate tracking of the landmark to obtain precise location measurements. Furthermore the combination of Lanziner and Link does not teach the claimed each transmission of the pulse having a respective transmission beam pattern with a null over a different respective range of angles; However, Holt teaches a similar system including the claimed null over a different respective range of angles (see col. 18 lines 47-55, col. 4 lines 31-36).

Referring to claim 24, Holt is silent about the null in the respective transmission beam pattern is less than 15 degree wide. However, having the null beam patter less than 15 degree wide is well known and it would be obvious to include for obtaining better accuracy measurement.

**Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lanziner EP 0 325 539 A1 in view of Link et al. US 5,572,427 and Holt US 6,608,593**

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**as applied to claim 23 above, and further in view of Lamensdorf et al. US 20040008153A1.**

Holt is silent about the antenna used for the null includes at least two antennas driven by substantially identical signals having a phase difference, the phase difference controlling the range of angles of the null. However, these antennas are well known. Lamensdorf teaches the claimed two antennas for controlling the range of the null (see Abstract, paragraph [0057]). It would have been obvious to use the two antenna system of Lamensdorf for null the desired angles with more accuracy.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of



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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam Alsomiri whose telephone number is 571-272-6970. The examiner can normally be reached on Monday-Friday 8:00-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isam Alsomiri



May 24, 2005



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